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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/824,302

04/14/2004

Kyung-Tae Park

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07/27/2006

CHA & REITER, LLC
210 ROUTE 4 EAST STE 103
PARAMUS, NJ 07652

EXAMINER

BLEVINS, JERRY M

ART UNIT

PAPER NUMBER

2883

DATE MAILED: 07/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/824,302	PARK, KYUNG-TAE	
	Examiner	Art Unit	
	Jerry Martin Blevins	2883	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 16-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 May 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because newly submitted Figure 3 is still not easily discernable and does not contribute to a greater understanding of the claimed invention. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Objections

Claim 9 is objected to because of the following informalities: the claimed "polycarbonate containing silicone" has no antecedent basis in the indicated base claim 1. For purposes of examination, examiner interprets claim 9 as to depend from claim 7. Appropriate correction is required.

Claims 1-15 are objected to because of the following informalities: the claimed recesses, of claim 1, cannot be located entirely on a surface since they must recess into the inner portion. For examination purposes, examiner interprets the claimed recesses to be located adjacent to the outer circumferential surface. Appropriate correction is required.

Response to Arguments

Applicant's arguments filed May 5, 2006 have been fully considered but they are not persuasive.

Specifically, the applied prior art to Konstadinidis et al., US 2005/0184411, teaches a tube (Figure 1) having a plurality of recesses (12). A recess cannot be located entirely on a surface since it must recess into the inner portion. However, the recesses taught by Konstadinidis are located adjacent to the outer circumferential surface, as shown in Figure 1.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by US Pre Grant Publication to Konstadinidis et al., number 2005/0184411.

Regarding claim 1, Konstadinidis teaches a cable (Figures 1 and 2) for use in air blowing installation (page 1, paragraph 6 and page 4, paragraph 40) comprising: at least one transmission media (ribbons 13 comprising fibers 14) of electrical or optical signals; and a hollow cylindrical tube (Figure 1) containing the transmission medium

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therein, the tube having a plurality of recesses (12) adjacent to an outer circumferential surface.

Regarding claim 2, Konstadinidis teaches that the transmission medium comprises an optical fiber ribbon (13) having a plurality of optical fibers (14) (page 1, paragraph 4, and page 4, paragraph 40) and a protective layer surrounding the individual optical fibers (page 2, paragraph 19).

Regarding claim 14, Konstadinidis teaches that the protective layer is formed by applying a liquid-phase UV curable resin to the plural optical fibers and irradiating ultraviolet rays to the resin (page 2, paragraph 19).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Konstadinidis in view of US Patent to Uemiya et al., number 5,345,545.

Regarding claims 3 and 4, Konstadinidis teaches the limitations of the base claim 1. Konstadinidis does not teach that the tube is made of amorphous material containing silicone. Uemiya teaches a layer surrounding optical fibers made of amorphous material containing silicone (column 4, lines 44-55). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the tube of Konstadinidis

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with the amorphous silicone of Uemiya. The motivation would have been to provide an improved buffer layer (column 4, lines 44-55).

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Konstadinidis in view of US Patent to Szum et al., number 6,399,666.

Regarding claims 5 and 6, Konstadinidis teaches the limitations of the base claim 1. Konstadinidis does not teach that the tube is made of polycarbonate, which has a molecular weight of more than 18000. Szum teaches a layer surrounding optical fibers made of polycarbonate, which has a molecular weight of more than 18000 (column 50, line 22 – column 51 – line 18, specifically column 50, lines 64-66). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the tube of Konstadinidis with the polycarbonate of Szum. The motivation would have been to improve the ease of removing optical fibers from the tube (column 50, lines 41-44)

Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Konstadinidis in view of US Patent to Benson, Jr. et al., number 5,905,826.

Regarding claims 7 and 8, Konstadinidis teaches the limitations of the base claim 1. Konstadinidis does not teach that the tube is made of polycarbonate containing silicone, wherein the content of the silicone is in a range of 0.01 to 0.5 percent by weight based on the weight of the polycarbonate. Benson teaches a layer surrounding optical fibers made of polycarbonate containing silicone (column 6, lines 9-30). While Benson does not teach that the content of the silicone is in the specific range of 0.01 to 0.5

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percent by weight based on the weight of the polycarbonate, Benson does teach the overlapping range of less than 10 percent (column 6, line 25). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the tube of Konstadinidis with the polycarbonate containing silicone, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233. The motivation would have been to improve light transmission through the tube (column 5, line 60 – column 6, line 8).

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Konstadinidis in view of Benson as applied to claim 7 above, and further in view of US Patent to Cooke et al., number 5,561,731.

Regarding claim 9, Konstadinidis in view of Benson teaches the limitations of the examiner interpreted base claim 7. Konstadinidis does not teach that the polycarbonate containing silicone has a frictional coefficient of less than 1. Cooke teaches a layer surrounding optical fibers made of material having a frictional coefficient of less than 1 (column 2, lines 5-24). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the tube of Konstadinidis with the material having a frictional coefficient of less than 1 of Cooke. The motivation would have been to improve the ease of inserting fiber in the tube (column 2, lines 5-24 and column 3, lines 31-37).

Claims 10, 11, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Konstadinidis in view of US Pre Grant Publication to Castellani et al., number 2004/0197059.

Regarding claims 10 and 11, Konstadinidis teaches the limitations of the base claim 1. Konstadinidis does not teach a water blocking filler provided in an interior empty space of the tube, wherein the water blocking filler includes a jelly compound. Castellani teaches a water blocking filler provided in an interior empty space of a tube surrounding optical fibers, wherein the water blocking filler includes a jelly compound (page 4, paragraph 56). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify cable of Konstadinidis with the water blocking filler of Castellani. The motivation would have been to reduce the possibility of water damage.

Regarding claim 13, Konstadinidis teaches the limitations of the base claim 1. Konstadinidis does not teach an outer diameter in a range of 1.5 mm to 4.0 mm. While Castellani does not teach the exact range, Castellani does teach a cable outer diameter in the overlapping range of 2.0 mm – 6.0 mm, and a preferred subset range of 2.5 mm – 4.0 mm (page 3, paragraph 50). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the cable of Konstadinidis such that the outer diameter is in a range of 1.5 mm – 4.0 mm, a subset of which is taught by Castellani, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233. The motivation would have been to increase the number of fibers inside the tube.

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Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Konstadinidis in view of Cooke.

Regarding claim 12, Konstadinidis teaches the limitations of the base claim 1. Konstadinidis does not teach that the tube has a clearance in the range of 0.5 mm to 1.5 mm. Although Cooke does not teach a tube with the exact clearance range, Cooke does teach a tube surrounding optical fibers with a clearance in the overlapping range of 0 mm – 1 mm (column 8, lines 13,14; 39, 40; 62, and column 9, line 10). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the tube of Konstadinidis such that it has a clearance in a range of 0.5 mm – 1.5 mm, an overlapping range of which is taught by Cooke, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233. The motivation would have been to improve the ease of insertion of the fibers in the tube.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Pre Grant Publication to Velikov, number 2002/0131703.

Regarding claim 15, Konstadinidis teaches the limitations of the base claim 1. Konstadinidis does not teach that the plurality of recesses has a crater shape. Velikov teaches a cable comprising a plurality of crater-shaped recesses (page 2, paragraph 22). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the cable of Konstadinidis with the crater-shaped recesses of

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Velikov. The motivation would have been to improve the alignment of the fibers (page 2, paragraph 22).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

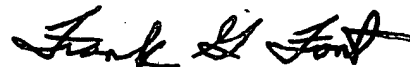
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry Martin Blevins whose telephone number is 571-272-8581. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on 571-272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JMB



Frank G. Font
Supervisory Patent Examiner
Technology Center 2800